

REMARKS

The Office Action mailed May 4, 2005 has been reviewed and carefully considered. Claim 10 is redrafted into independent form, but not otherwise revised. Base claim 9 is canceled. Claims 11-16 are added. Claims 1-8 and 10-16 are pending, the independent claims being 1, 6 and 10. Reconsideration of the above-identified application, as amended and in view of the following remarks, is respectfully requested.

The specification stands objected to for informalities that have now been corrected.

Claims 1-10 stand rejected under 35 U.S.C. 112, second paragraph as indefinite for use of the terms "higher" and "lower."

Claim 10, now redrafted into independent form, includes the language of claim 9, and the language of claim 9 is not indefinite.

Claim 10 recites, "a higher and a lower waveguide coupled in a hierarchical Y-structure."

FIG. 1 and accompanying text in the specification support the language of claim 10.

It would have been clear to one of ordinary skill in the art what is meant in referring to part of a hierarchy as being higher or lower in the hierarchy than some other part of the hierarchy.

To increase clarity, the words "higher" and "lower" have been removed, from the remaining claims, wherever they appeared.

Reconsideration and withdrawal of the rejection are respectfully requested.

Claims 1 and 4-6 stand rejected under 35 U.S.C. 102(b) as anticipated by U.S. Patent No. 5,787,105 to Okamoto et al. (“Okamoto”).

Claims 1 and 6 refer to the structure as “stepped,” whereas the Okamoto waveguide 12 is not stepped.

For at least these reasons, Okamoto fails to anticipate the present invention as recited in claims 1 and 6.

Support for the amendment of claims 1 and 6 is found in FIGs. 3A, 3B, particularly in the light path arrows and power ratios in these figures, and in accompanying text in the specification.

Claims 2-3 and 7-8 stand rejected under 35 U.S.C. 103(a) as unpatentable over Okamoto in view of U.S. Patent Publication No. 2002/0037024 to Huang.

Claims 2-3 depend from claim 1, and claims 7-8 depend from claim 6. Huang cannot make up for the deficiencies in Okamoto.

Moreover, what the Office Action characterizes as an improvement to Okamoto would not have been obvious, at least because it would degrade the precision in forming the grating (Okamoto, col. 11, lines 14(15)-19).

Support for the amendment of claims 3 and 8 is found in reference number 130 in FIGs. 3A, 3B and accompanying text in the specification.

Claim 9 stands rejected under 35 U.S.C. 103(a) as unpatentable over Okamoto in view of U.S. Patent No. 4,515,428 to Findakly.

Claim 9 has been canceled, rendering moot the instant ground of rejection.

Claim 10 stands rejected under 35 U.S.C. 103(a) as unpatentable over

Okamoto in view of Findakly and Huang.

Claim 10 recites, “a grating that is formed under the guide layer,” which has been shown by the above analysis to non-obvious. Findakly fails to make up for the shortcomings in the other two references.

Reconsideration and withdrawal of the rejection are respectfully requested.

New claim 11 finds support in the specification (e.g., lines 18-22 of page 5).

Support for new claims 12, 13 and 15 is found in FIGs. 3A, 3B, particularly in the light path arrows and power ratios in these figures, and in accompanying text in the specification.

New claim 14 finds support in FIG. 3B, particularly the power ratios.

Support for new claim 16 is found in FIG. 1 and accompanying text in the specification, e.g., page 5, lines 14-16.

In view of the foregoing amendments and remarks, it is believed that this application is now in condition for allowance. The Examiner is invited to contact the undersigned in the event of any perceived outstanding issues so that passage of the case to issue can be effected without the need for a further Office Action.

In the event that any additional fee is required to continue the prosecution of this Application as requested, please charge such fee to Deposit Account No. 502-470.

Respectfully submitted,

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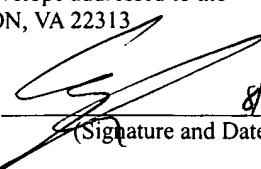
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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to the COMMISSIONER FOR PATENTS, ARLINGTON, VA 22313 on August 1, 2005.

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